

Patent claims

1. A base framework for a manipulating apparatus which can be constructed in a modular manner, in particular for an automation cell which is designed for being combined with at least one machine tool, comprising

- a front wall, a rear wall and side walls which enclose a control space for a control device, a process platform being set up above the control space,

- the front wall having at least one mechanical interface for fixing a supply module which serves to supply workpieces, and

- the rear wall having a top rear-wall part which projects beyond the process platform and, on its front side pointing towards the process platform, has a first plurality of mechanical interfaces for the locally variable fixing of a process module for manipulating and/or processing supplied workpieces, the top rear-wall part also having an opening which is arranged above the process platform.

2. The base framework according to claim 1, the top rear-wall part being designed as a frame, on the front side of which an interface panel is fixed which has the first plurality of mechanical interfaces.

3. The base framework according to claim 1, the top rear-wall part being designed as a frame, and at least one frame part being designed as a hollow profile for accommodating cable looms.

4. The base framework according to claim 3, two lateral frame posts of the top rear-wall part being designed as hollow profiles for accommodating cable looms.

5. The base framework according to claim 4, the rear-wall opening being defined laterally by the frame posts.

6. The base framework according to claim 3, at least one hollow profile of the top rear-wall part having a cable opening for passing through a cable loom in order to connect the control space to a process module.

7. The base framework according to claim 5, at least one hollow profile at the top rear-wall part having a cable opening for passing through a cable loom in order to connect the control space to a process module, and cable openings being provided on those sides of the frame posts which point towards the rear-wall opening.

8. The base framework according to claim 1, a process plate being arranged on the process platform and having a second plurality of mechanical interfaces for the locally variable fixing of a process module for manipulating and/or processing supplied workpieces.

9. The base framework according to claim 8, it being possible for the process plate to be fitted through the opening in the rear wall.

10. The base framework according to claim 1, a bracket projecting forwards being fitted on the front side, pointing

towards the process platform, of the top rear-wall part, the underside of this bracket having at least one further mechanical interface for fixing a process module for manipulating and/or processing supplied workpieces.

11. The base framework according to claim 1, two feet extending forwards from the front wall.

12. The base framework according to claim 11, enclosing walls being arranged above the feet and in extension of the side walls, these enclosing walls laterally enclosing a supply space for a supply module.

13. The base framework according to claim 1, a cable opening for passing through a cable loom being provided on the front wall in order to connect a supply module to the control space.

14. A manipulating apparatus, in particular an automation cell, which is designed for being combined with at least one machine tool, comprising a base framework which comprises:

- a front wall, a rear wall and side walls which enclose a control space for a control device, a process platform being set up above the control space,

- the front wall having at least one mechanical interface for fixing a supply module which serves to supply workpieces, and

- the rear wall having a top rear-wall part which projects beyond the process platform and, on its front side pointing towards the process platform, has a first plurality of mechanical interfaces for the locally variable fixing of a

process module for manipulating and/or processing supplied workpieces, the top rear-wall part also having an opening which is arranged above the process platform.

15. The manipulating apparatus according to claim 14, the base framework supporting a housing which encloses a supply space in front of the front wall and a process space above the process platform.

16. The manipulating apparatus according to claim 15, the housing having a door frame which is arranged in front of the supply space and on which a door is mounted.

17. The manipulating apparatus according to claim 15, the housing having at least one side cover for laterally covering the process space.

18. The manipulating apparatus according to claim 14, the top rear-wall part of the base framework being designed as a frame, on the front side of which an interface panel is fixed which has the first plurality of mechanical interfaces.

19. The manipulating apparatus according to claim 14, the top rear-wall part of the base framework being designed as a frame, and at least one frame part being designed as a hollow profile for accommodating cable looms.

20. The manipulating apparatus according to claim 19, two lateral frame posts of the top rear-wall part being designed as hollow profiles for accommodating cable looms.

21. The manipulating apparatus according to claim 20, the rear-wall opening being defined laterally by the frame posts.

22. The manipulating apparatus according to claim 19, at least one hollow profile of the top rear-wall part having a cable opening for passing through a cable loom in order to connect the control space to a process module.

23. The manipulating apparatus according to claim 21, at least one hollow profile at the top rear-wall part having a cable opening for passing through a cable loom in order to connect the control space to a process module, and wherein cable openings being provided on those sides of the frame posts which point towards the rear-wall opening.

24. The manipulating apparatus according to claim 14, a process plate being arranged on the process platform and having a second plurality of mechanical interfaces for the locally variable fixing of a process module for manipulating and/or processing supplied workpieces.

25. The manipulating apparatus according to claim 24, it being possible for the process plate to be fitted through the opening in the rear wall.

26. The manipulating apparatus according to claim 14, a bracket projecting forwards being fitted on the front side, pointing towards the process platform, of the top rear-wall part, the underside of this bracket having at least one further mechanical interface for fixing a process module for manipulating and/or processing supplied workpieces.

27. The manipulating apparatus according to claim 14, two feet extending forwards from the front wall.

28. The manipulating apparatus according to claim 27, enclosing walls being arranged above the feet and in extension of the side walls, these enclosing walls laterally enclosing a supply space for a supply module.

29. The manipulating apparatus according to claim 14, a cable opening for passing through a cable loom being provided on the front wall in order to connect a supply module to the control space.